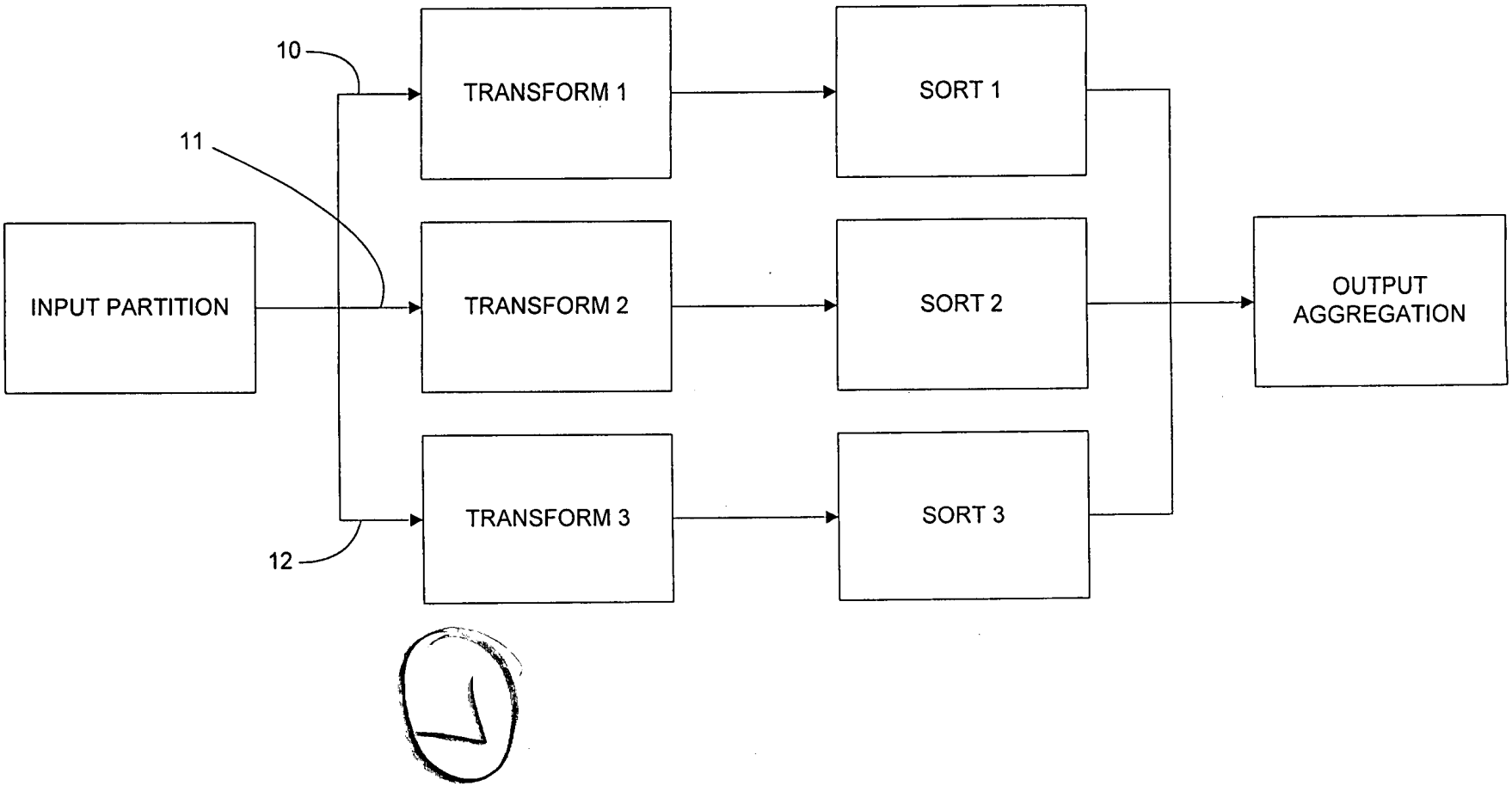
FIG. 1 (Prior Art)



26E22F" 2hT26680

FIG. 2

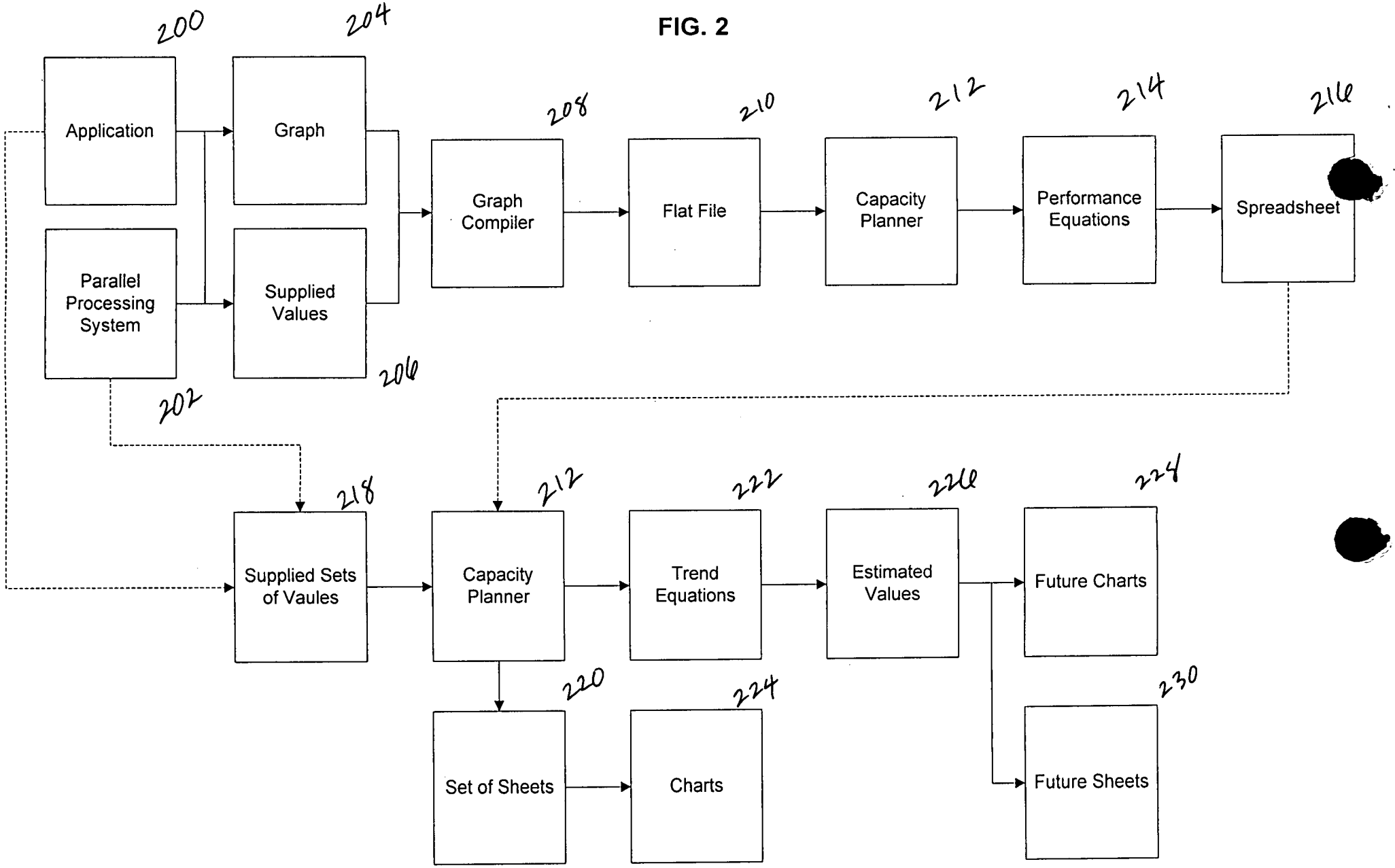


FIG. 3

```
TH
TI,SpreadsheetPath=c:\My Documents\marshall\capdemo\scoring.xls
TI, Time=hour
TI,SheetTitle=Scoring


CH
CT,Disk I/O, 3.0
CT,Hash, 10
CT,Send,2
CT,Sort,0.5
CT,Merge and transform,2
CT, Aggregate, 2
CT,Score,2

GH
GT,Sort detail data, 68,94,Sort=1,Disk I/O=1,CPUTIME=12500
GT,Sort customer data, .3,82,Sort=1,Disk I/O=1,CPUTIME=300
GT,Merge and transform, 68, 169, Merge and transform=1, CPUTIME=5700
GT,Aggregate,68,169,Aggreagete=1, CPUTIME=6300
GT,Score,.3,94,Disk I/O=1, Score=1,CPUTIME=20
FH
```

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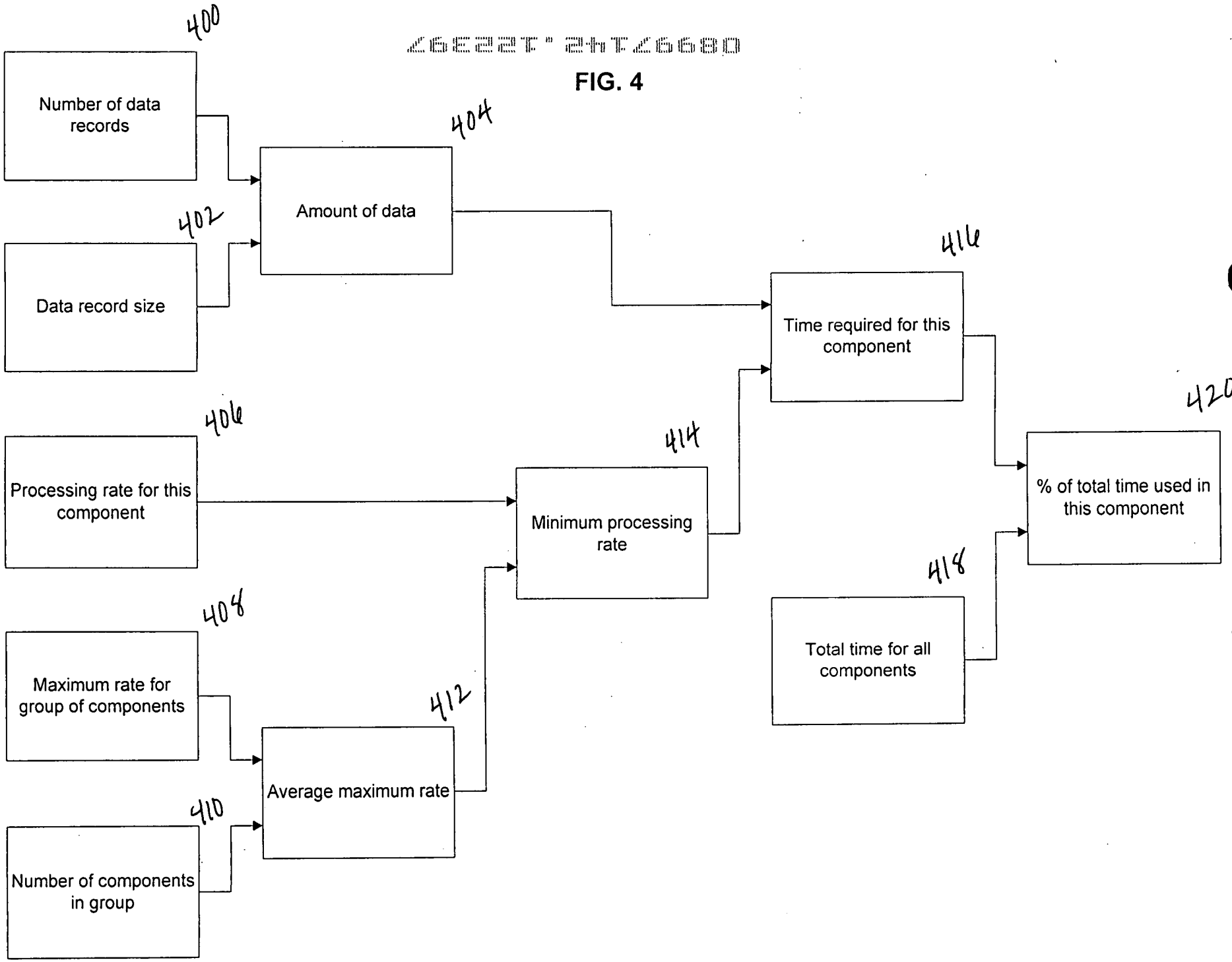
FIG. 4



Scoring

500 502 504 506 508 510 512 514 516 518 520

Performance Model	Comp Rate (MB/sec)	# Parts	# Records (Millions)	Record Size (bytes)	Total Size (GB)	Disk I/O (GB)	Net I/O (GB)	Total Data (GB)	Total Time (hours)	Percent of Total Time
Sort detail data	0.5	2	68.0	94.0	6.4	6.4		6.4	3.6	14.9%
Sort customer data	0.5	2	0.3	82.0	0.0	0.0		0.0	0.0	0.1%
Merge and transform	0.3	2	68.0	169.0	11.5			11.5	10.6	44.7%
Aggregate	0.4	1	68.0	169.0	11.5			11.5	9.1	38.3%
Score	0.8	1	0.3	94.0	0.0	0.0		0.0	0.0	0.0%
Disk I/O	4.0					6.4			0.4	1.9%
Network I/O	5.0						0.0		0.0	0.0%
Total CPU hours	23.8									

622

ELAPSED TIME

524 526 528 530 532 534 536 538 540 542 544

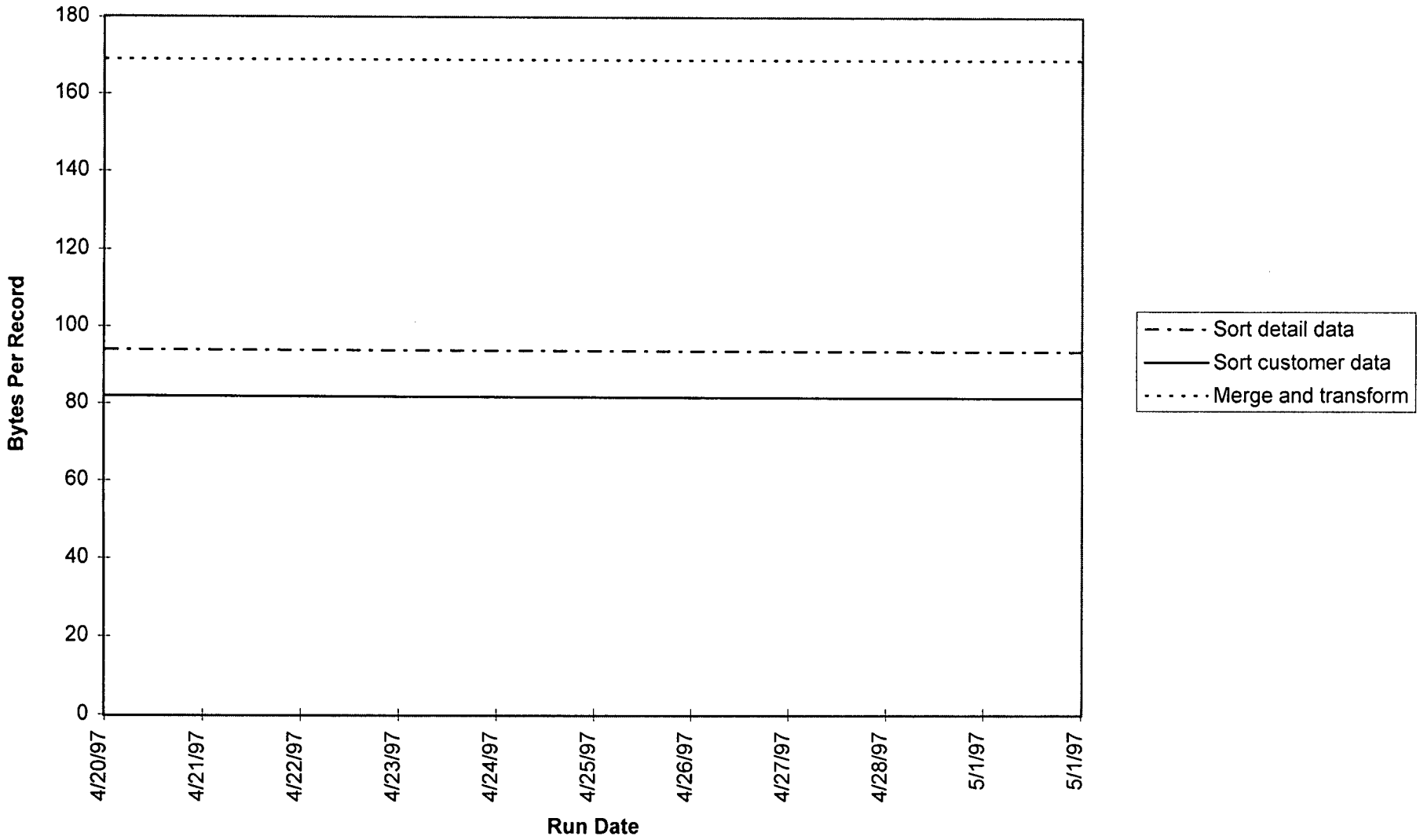
Performance Model	Comp Rate (MB/sec)	# Parts	# Records (Millions)	Record Size (bytes)	Total Size (GB)	Disk I/O (GB)	Net I/O (GB)	Total Data (GB)	Total Time (hours)	Percent of Total Time
Sort detail data	0.5	2	68.0	94.0	6.4	3.2		3.2	1.8	10.8%
Sort customer data	0.5	2	0.3	82.0	0.0	0.0		0.0	0.0	0.0%
Merge and transform	0.3	2	68.0	169.0	11.5			5.7	5.3	32.3%
Aggregate	0.4	1	68.0	169.0	11.5			11.5	9.1	55.4%
Score	0.8	1	0.3	94.0	0.0	0.0		0.0	0.0	0.1%
Disk I/O	4.0					3.2			0.2	1.4%
Network I/O	5.0						0.0		0.0	0.0%

546 Estimated elapsed hours 16.5
548 Wall clock time (hours) 16.9
550 % CPU busy 97.4%

FIG. 5

Z6E22F" 2HFZ6680

FIG. 6



Z6E22F" 2HTZ6680

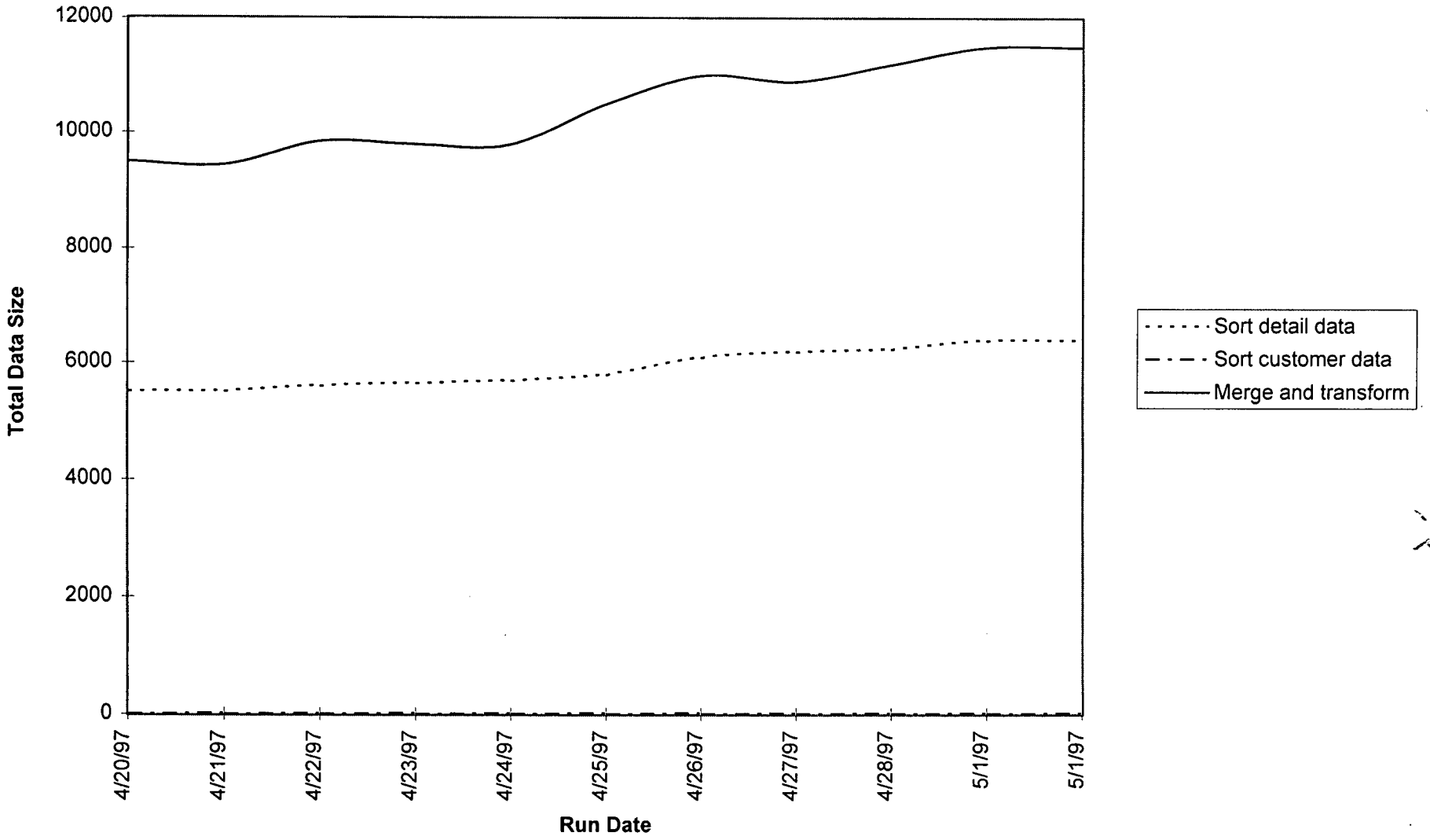



FIG. 7